

2.9 - 2.11 Review

Name _____ Date _____ Period _____

Write the expression in reduced form. Show work!

1. $\frac{21x^3}{3x}$

2. $\frac{12st-4s}{9t-3}$

3. $\frac{8x^3-1}{12x^2+6x+3}$

Simplify each expression by multiplying or dividing. Show work!

4. $\frac{6}{x-3} \cdot \frac{x^2-9}{12x+18}$

5. $\frac{x^2-2x-8}{x^2+x-20} \cdot \frac{3x^2-3x}{x^2+x-2}$

6. $\frac{5xy^3}{2x^2-8} \div \frac{15x^2y}{(x-2)^2}$

7. $\frac{9x^2-4}{2y^2-2y} \div \frac{3x^2+7x-6}{y^2-1}$

Perform the indicated operation, if possible simplify. Show work!

8. $\frac{3}{s+2} + \frac{1}{s-4}$

9. $\frac{x-5}{x+7} - 3$

10. $\frac{x^2+5x-7}{x^2+x-12} - \frac{3x-2}{x+4}$

11. $\frac{3x}{x-5} - \frac{8}{4x+1}$

Solve the equation algebraically. Identify any extraneous solutions. Show work!

12. $x + 3 = \frac{10}{x}$

13. $\frac{3}{x-1} + \frac{3}{10} = \frac{5}{2x-2}$

14. $\frac{x}{x-2} + \frac{3}{x-1} = 1$

15. $\frac{2x}{x+2} + \frac{5}{x-3} = \frac{10}{x^2-x-6}$

16. $\sqrt{3x+7} - 1 = 0$

17. $3\sqrt{x} - 12 = 21$

18. $-7\sqrt[3]{x} + 9 = -40$

19. $\sqrt[3]{x-8} + 18 = 23$

20. $(x+9)^{\frac{3}{4}} - 15 = 12$

21. $\sqrt{4x-3} - 2 = \sqrt{2x-5}$

22. $(x-9)^{\frac{3}{2}} - 9 = 18$

23. $-3(x+5)^{\frac{4}{3}} + 23 = -25$